

"TRADER" SERVICE SHEET

1102

**D**EIGNED to operate from A.C. or D.C. mains of 200-250 V, or self-contained dry batteries, the Alba 101 is a 4-valve (plus metal rectifier) 2-band portable superhet, covering the waveband ranges of 190-570 m and 950-2,000 m. A special device prevents the lid being closed unless the power control knob is in the "off" position.

The 707 and LP707 are portable radiogram versions of the 101, being standard and long-playing models respectively. The differences between them and the 101 are fully described under "General Notes" overleaf.

The 101B and 707B are low-voltage export versions of the 101 and 707, and are fully covered under "General Notes." Model 707B was also produced for the home market.

Release dates and original prices: 101, March 1953, £13 10s 3d; 707, August 1952, £22 5s 2d; 707B, August 1952, £23 17s; LP707, May 1953, £23 17s. Batteries and purchase tax extra.

#### CIRCUIT DESCRIPTION

Tuned frame aerial input by L<sub>1</sub>, loading coil L<sub>2</sub> and C<sub>26</sub> (M.W.) or L<sub>1</sub>, loading coils L<sub>2</sub>, L<sub>3</sub> and C<sub>26</sub> (L.W.) to pentode valve (V<sub>1</sub>, Mullard DK92) which operates as frequency changer with electron coupling. No provision is made for the connection of an external aerial or earth.

Oscillator grid coils L<sub>4</sub> (M.W.) and L<sub>5</sub> (L.W.) are tuned by C<sub>27</sub>. Parallel trimming by G<sub>7</sub>, C<sub>28</sub> (M.W.) and G<sub>29</sub> (L.W.); series tracking by G<sub>8</sub> (M.W.) and G<sub>9</sub> (L.W.). Reaction coupling from oscillator anode across the common impedance of the trackers, with additional coupling on M.W. by L<sub>6</sub>.

Second valve (V<sub>2</sub>, Mullard DF91) is a variable-mu R.F. pentode, operating as intermediate frequency amplifier with tuned transformer couplings C<sub>2</sub>, L<sub>7</sub>, L<sub>8</sub>, C<sub>3</sub> and C<sub>12</sub>, L<sub>9</sub>, L<sub>10</sub>, C<sub>13</sub>.

Intermediate frequency 470 kc/s.

Diode signal detector is part of diode pentode valve (V<sub>3</sub>, Mullard DAF91). A.F. component in rectified output is developed across volume control R<sub>9</sub>, which acts as diode load, and passed via C<sub>16</sub> to control grid of pentode section. I.F. filtering by C<sub>14</sub>, R<sub>5</sub> and C<sub>15</sub>.

D.C. potential developed across R<sub>9</sub> is fed back as bias from appropriate points on the potential divider network R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> to V<sub>1</sub> and V<sub>2</sub>, giving

# ALBA 101 Series

Covering Models 101, 101B, 707, 707B and LP707

automatic gain control. Standing bias for V<sub>1</sub> and V<sub>2</sub> is obtained by returning R<sub>8</sub> to the positive side of the heater chain.

In the gram models the pick-up is switched via S<sub>13</sub> across R<sub>9</sub> in the gram position of the waveband control. Two other extra switches S<sub>11</sub> and S<sub>12</sub> close and open respectively on gram to prevent radio break-through. Section diagrams of the pick-up circuits are shown overleaf (col. 2).

Resistance-capacitance coupling by R<sub>11</sub>, C<sub>18</sub> and R<sub>13</sub> between V<sub>3</sub> and pentode output valve (V<sub>4</sub>, Mullard DL92). Tone correction by C<sub>20</sub>.

For battery operation, power supplies are carried by switches S<sub>7(B)</sub> and S<sub>9(B)</sub>, which close in that position as indicated by the suffix (B). For mains operation S<sub>6(M)</sub>, S<sub>8(M)</sub> and

(Continued col. 1 overleaf)

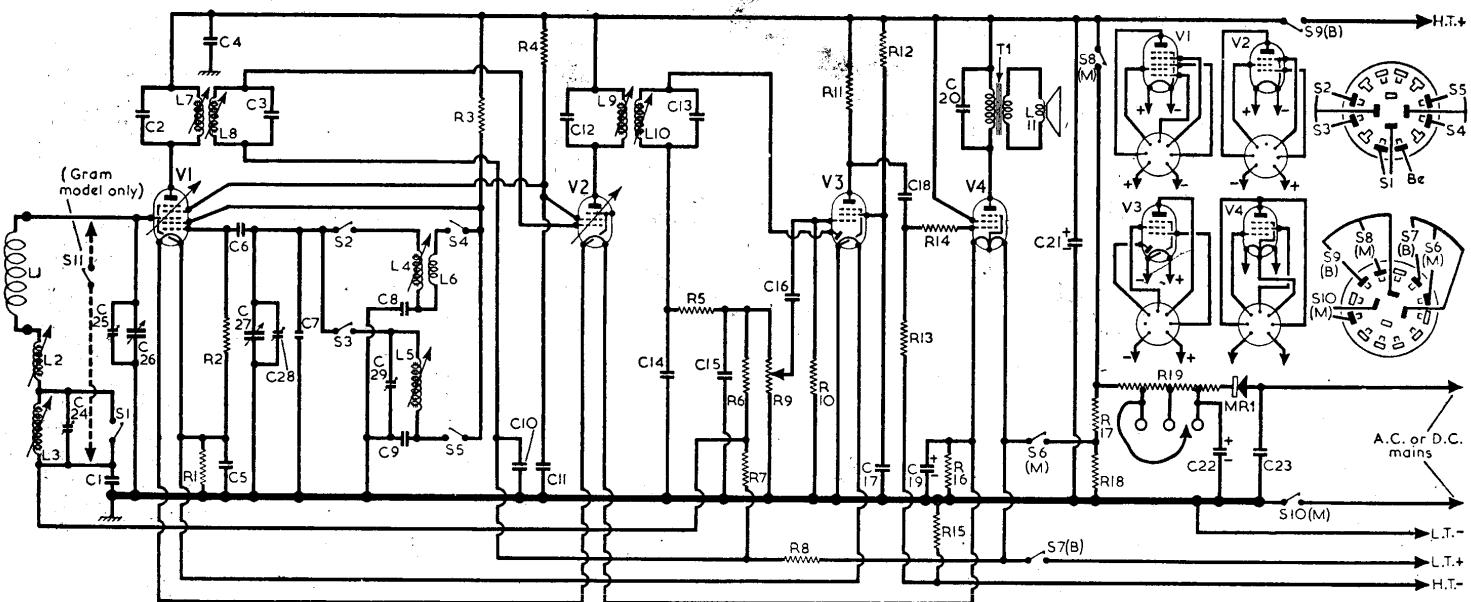


The appearance of the Alba 101 portable showing the two lock-screws which secure the front panel.

CAPACITORS		Values	Locations
C1	A.G.C. decoupling	0.1μF	C1
C2	{ 1st I.F. trans.	100pF	C1
C3	{ tuning ...	100pF	C1
C4	H.T. by-pass ...	0.1μF	E2
C5	Filament by-pass ...	0.1μF	E3
C6	V1 osc. C.G. ...	100pF	E2
C7	M.W. osc. trim ...	15pF	F3
C8	M.W. osc. tracker ...	625pF	D2
C9	L.W. osc. tracker	250pF	E2
C10	A.G.C. decoupling	0.05μF	D2
C11	S.G. decoupling	0.05μF	E2
C12	{ 2nd I.F. trans.	100pF	B1
C13	{ tuning ...	100pF	B1
C14	I.F. by-pass ...	100pF	F3
C15	A.F. coupling ...	0.001μF	E2
C16	V3 S.G. decoupling	0.05μF	G2
C17	A.F. coupling ...	0.005μF	F2
C18	Filament by-pass ...	50μF	G2
C20	Tone corrector ...	0.005μF	—
C21*	H.T. smoothing {	32μF	A1
C22*	Mains R.F. by-pass	0.01μF	A1
C23	L.W. aerial trim ...	120pF	D2
C24†	M.W. aerial trim ...	35pF	F2
C25†	Aerial tuning ...	523pF	F2
C26†	Oscillator tuning ...	523pF	F3
C27†	M.W. osc. trim ...	35pF	F3
C28†	L.W. osc. trim ...	120pF	D2
C29†	L.W. osc. trim ...	120pF	D2

RESISTORS		Values	Locations
R1	Fil. H.T. by-pass	220Ω	F3
R2	V1 osc. C.G.	27kΩ	E3
R3	Osc. anode feed	33kΩ	E2
R4	S.G. H.T. feed	39kΩ	E2
R5	I.F. stopper	47kΩ	F2
R6	{ A.G.C. potential	2.2MΩ	E2
R7	{ divider ...	2.2MΩ	E2
R8	Volume control	10MΩ	E2
R9	V3 C.G. ...	2.2MΩ	F3
R10	V3 anode load	1MΩ	F3
R11	V3 S.G. feed	4.7MΩ	F2
R12	V4 C.G. ...	1MΩ	F2
R13	V4 C.G. stopper	10kΩ	F2
R14	V4 G.B. ...	220Ω	F2
R15	Fil. H.T. by-pass	330Ω	F2
R16	Fil. ballast	1,750Ω	F3
R17	Filament shunt	10kΩ	F3
R18	H.T. smoothing	*2.3kΩ	G3
R19	* Tapped at 200Ω + 350Ω + 350Ω + 1,400Ω from MR1.		

\* Electrolytic. † Variable. ‡ Pre-set.



Circuit diagram of the Alba 101 A.C./D.C./A.D. portable. The gram version pick-up circuits are shown overleaf. The waveband and mains/battery switch units inset beside the circuit diagram are drawn as viewed in the chassis pictures overleaf.

